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      FILE 'CABA, CROPU, CROPB' ENTERED AT 00:04:27 ON 27 JUN 2003
L23          3362 S L22/BI
L24         15350 S L21 OR L23
L25           224 S L24 AND (HONEYBEE# OR BEE OR BEES OR APIS)
L26            19 S L25 AND (MITE OR MITES OR VARROA OR ACARAPIS)
L27            17 DUP REM L26 (2 DUPLICATES REMOVED)

=>
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=> d 1-5 bib hit

L19 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 2002:675818 CAPLUS
DN 137:181110
TI Compositions for control of parasitic **mites** of honey **bees** and other hive pests
IN Erickson, Eric H.; Degrandi-Hoffman, Gloria; Becker, Christian G.; Whitson, Roy S.; Deeby, Thomas A.
PA The United States of America, as Represented by Secretary of Agriculture, USA
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002067914	A1	20020906	WO 2002-US5986	20020228

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003044443	A1	20030306	US 2002-87161	20020227
PRAI US 2001-272097P	P	20010228		

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

only US 6051612 + 6217891 cited. ↓ Barkbeetle. NOT relev.

TI Compositions for control of parasitic **mites** of honey **bees** and other hive pests
AB The present invention is directed to methods and compns. for use to control parasitic **mites** of honey **bees**, particularly **Varroa mites**. In one aspect, the invention is directed to control of parasitic **mites** of honey **bees** wherein the active ingredient is a miticidally effective amt. of a selected ketone CH3(CH2)xCO(CH2)yCH3 (x = 0-5, yr = 0-2), or 1-heptanol, Et butyrate, benzaldehyde, heptaldehyde, or d-limonene. In second aspect, the invention is directed to control of parasitic **mites** of honey **bees** wherein the active ingredient is an effective attractant amt. of 2-heptanone. The attracted **mites** are then trapped or otherwise removed from the locus of the **bees**. The present invention is also directed to methods and compns. which include 2-heptanone to control hive invading pests of honey **bees**.
ST **honeybee Varroa** acaricide insecticide attractant hive pest heptanone
IT Achroia grisella
Aethina tumida
Galleria mellonella
Tropilaelaps
(compns. for control in honey **bee** hive of)
IT **Varroa**
(compns. for control of)
IT Acaricides
Honeybee
Insect attractants
Insecticides
Pesticide formulations
(compns. for control of parasitic **mites** of honey **bees** and other hive pests)
IT Pesticides

(controlled-release; for control of parasitic **mites** of honey **bees** and other hive pests)

IT Attractants
(**mite**; compns. for control of parasitic **mites** of honey **bees** and other hive pests)

IT Pesticides
(slow release; for control of parasitic **mites** of honey **bees** and other hive pests)

IT **67-64-1**, Acetone, biological studies **100-52-7**, Benzaldehyde, biological studies **105-54-4**, Ethyl butyrate **106-35-4**, 3-Heptanone **110-43-0**, 2-Heptanone **111-13-7**, 2-Octanone **111-70-6**, 1-Heptanol **111-71-7**, Heptaldehyde **123-19-3**, 4-Heptanone **591-78-6**, 2-Hexanone **5989-27-5**
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(compns. for control of parasitic **mites** of honey **bees** and other hive pests, contg.)

IT 7534-94-3, Isobornyl methacrylate 42978-66-5, Tripropyleneglycol diacrylate
RL: MOA (Modifier or additive use); USES (Uses)
(in compns. for control of parasitic **mites** of honey **bees** and other hive pests)

L19 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 1997:768417 CAPLUS
DN 128:19694
TI Toxicity of seven monoterpenoids to tracheal **mites** (Acari: Tarsonemidae) and their honey **bee** (Hymenoptera: Apidae) hosts when applied as fumigants
AU Ellis, Marion D.; Baxendale, Frederick P.
CS Department of Entomology, University of Nebraska, Lincoln, NE, 68583-0816, USA
SO Journal of Economic Entomology (1997), 90(5), 1087-1091
CODEN: JEENAI; ISSN: 0022-0493
PB Entomological Society of America
DT Journal
LA English
TI Toxicity of seven monoterpenoids to tracheal **mites** (Acari: Tarsonemidae) and their honey **bee** (Hymenoptera: Apidae) hosts when applied as fumigants
AB Lab. bioassays were conducted to characterize the acute toxicity of 7 monoterpenoids to tracheal **mites**, **Acarapis** woodi (Rennie), and their honey **bee**, **Apis** mellifera L., hosts. Citral, thymol, carvacrol, .alpha.-terpineol, pulegone, d-limonene, and menthol were applied as fumigants to **mite** -infested honey **bees**. Thymol and menthol were the most toxic compds. to honey **bees**, and .alpha.-terpineol was the least toxic. Menthol, citral, thymol, and carvacrol were more toxic to tracheal **mites** than to honey **bees**. Pulegone, d-limonene, and .alpha.-terpineol were more toxic to honey **bees** than to tracheal **mites**. Menthol was 18.9 times more toxic to tracheal **mites** than to honey **bees** at the LC50 concns.; however, as the concn. increased, **bee** mortality increased more rapidly than **mite** mortality, and menthol was only 5.7 times more toxic at the LC90 concns. Probit regressions for **bee** and **mite** mortality were parallel for citral and thymol. Citral and thymol were 2.9 (2.5-3.3) and 2.0 (1.0-3.6) times more toxic to tracheal **mites**, resp., at all concns. estd.
ST terpene fumigant **mite** honey **bee**; **Acarapis** **Apis** terpene fumigant
IT Insecticides
Insecticides
(fumigants; toxicity of monoterpenoids to tracheal **mites** and

their honey **bee** hosts when applied as fumigants)

IT Fumigants
Fumigants
(insecticidal; toxicity of monoterpenoids to tracheal **mites** and their honey **bee** hosts when applied as fumigants)

IT **Acarapis** woodi
Honeybee
(toxicity of monoterpenoids to tracheal **mites** and their honey **bee** hosts when applied as fumigants)

IT Terpenes, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(toxicity of monoterpenoids to tracheal **mites** and their honey **bee** hosts when applied as fumigants)

IT 89-78-1, Menthol 89-82-7, Pulegone 89-83-8, Thymol 98-55-5, .alpha.-Terpineol 499-75-2, Carvacrol 5392-40-5, Citral **5989-27-5**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(toxicity of monoterpenoids to tracheal **mites** and their honey **bee** hosts when applied as fumigants)

L19 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 1991:449168 CAPLUS
DN 115:49168
TI Direct formation and subsequent substitution of remote ketone-functionalized organocopper reagents
AU Ebert, Greg W.; Klein, Walter R.
CS Coll. Buffalo, State Univ. New York, Buffalo, NY, 14222, USA
SO Journal of Organic Chemistry (1991), 56(15), 4744-7
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
OS CASREACT 115:49168
AB Remote ketone-functionalized aryl- and alkylcopper reagents were synthesized by the use of a highly activated form of zero-valent copper. 5-Bromo-2-pentanone and 4-iodobenzophenone undergo oxidative addn. with activated copper to form 5-cuprio-2-pentanone and 4-cupriobenzophenone, resp. These, in turn, can be cross-coupled with alkyl halides to produce the corresponding alkylated ketones and with acid chlorides to form the corresponding diketones. By use of this methodol., a two-step, one-pot synthesis of Me (E)-9-oxo-2-decenoate and 8-nonen-2-one were achieved. The former compd. is the Me ester of the "queen substance" of the honey **bee**, and the latter is part of an "attractant mixt." for cheese **mites** found in cheddar cheese. These syntheses were accomplished by converting com. available 6-bromo-2-hexanone to 6-cuprio-2-hexanone followed by cross-coupling with com. available Me 4-bromocrotonate and allyl bromide, resp.
ST pheromone honey **bee** cheese **mite**; copper reagent prepn coupling; oxidn addn bromopentanone iodobenzophenone organocopper; halide cross coupling cupriopentanone cupriobenzophenone; oxodecenoate honey **bee** substance prepn; nonenone cheese **mite** attractant prepn; copper reaction bromohexenone; cupriohexenone coupling bromocrotonate allyl bromide
IT 1189-64-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as component of cheese **mite** attractant mixt.)
IT 5009-32-5P, 8-Nonen-2-one
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as component of honey **bee** "queen substance")
IT **591-78-6P**, 2-Hexanone 821-55-6P, 2-Nonanone 3664-60-6P, 7-Octen-2-one 14171-89-2P 16538-91-3P, 2,9-Decanedione
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, from cupriopentanone)

L19 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 1990:174103 CAPLUS
DN 112:174103
TI Synergistic varrocide aerosol containing acetone for **honeybee** colonies
IN Vesely, Vladimir; Titera, Dalibor; Kamler, Frantisek
PA Czech.
SO Czech., 2 pp.
CODEN: CZXXA9
DT Patent
LA Czech
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CS 261124	B1	19890112	CS 1986-9452	19861217
PRAI CS 1986-9452		19861217		

TI Synergistic varrocide aerosol containing acetone for **honeybee** colonies
AB A synergistic compn. for protection of **honeybees** against **mites** (Varroidae) comprises acaricide 1 and Me2CO 50-5000 parts. The compn. is used as an aerosol for **bee** colonies.
ST **honeybee** acaricide acetone synergism; Varroidae **honeybee** acaricide acetone mixt
IT Varroidae
(protection of **honeybees** from, acetone-acaricide mixts. for)
IT **Honeybee**
(synergistic acaricides for, acetone-acaricide mixts. as, for protection from Varroidae)
IT Acaricides
(synergistic, mixts. with acetone, for protection of **honeybees** from Varroidae)
IT 126450-41-7 126450-42-8
RL: BIOL (Biological study)
(for protection of **honeybees** from Varroidae, synergistic)
IT **67-64-1D**, Acetone, mixts. with acaricides
RL: BIOL (Biological study)
(synergistic, for protection of **honeybees** from Varroidae)

L19 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 1955:6053 CAPLUS
DN 49:6053
OREF 49:1270e-g
TI Capability of resistance of the internal **mite** of **honeybees** and its possible control
AU Kaeser, W.
CS Tierhyg. Inst., Freiburg i. Br., Germany
SO Zeitschrift fuer Bienenforschung (1952), 1, 191-216
CODEN: ZBIEAU; ISSN: 0044-2399
DT Journal
LA Unavailable
TI Capability of resistance of the internal **mite** of **honeybees** and its possible control
AB cf. following abstr. **Honeybees** infested with the **mite** A carapis woodi were fed various concns. of NaCl, MgCl2, Na2HPO4, CuSO4, Na2S2O3, colloidal S, mustard oil (I), thymol (satd. aq. soln.) (II), terpineol (III), urea, glycocoll, cysteine-HCl, tyrosine, acetylcholine, or one of 27 com. prepns. The **bees** were also exposed to the vapors of safrole, PhNO2, gasoline, wintergreen oil, I, II, III, cryst. thymol, KCN (satd. aq. soln.), CH2:CHCN, Me2CO, or one of 5 com. prepns. In no case could the **mites** be killed without also killing the **bees**; I and III were particularly active against both **bees** and **mites**. Vapors of the Belgian com. prepn. "P.K." and of the German com. prepn. "Delacan" (compns. not given) rapidly killed the

mites without appreciably affecting the **bees**.

IT **Acarapis** woodi and(or) Acarine disease **mite**
(control of)

IT Insecticides
(for acarine disease of **bees**)

IT Gasoline
PK
(in **Acarapis** woodi control on **bees**)

IT Oils
Oils
(mustard, in **Acarapis** woodi control on **bees**)

IT Oils
(wintergreen, in **Acarapis** woodi control on **bees**)

IT Delacan
(in **Acarapis** woodi control in **bees**)

IT Cysteine, hydrochloride
Tyrosine
(in **Acarapis** woodi control on **bees**)

IT 107-13-1, Acrylonitrile
(as fumigant, in **Acarapis** woodi control on **bees**)

IT 7704-34-9, Sulfur
(colloidal, in **Acarapis** woodi control on **bees**)

IT 51-84-3, Choline, acetyl- 56-40-6, Glycine 57-13-6, Urea **67-64-1**, Acetone 89-83-8, Thymol 94-59-7, Safrole 98-95-3, Benzene, nitro- 7558-79-4, Sodium phosphate, Na2HPO4 7647-14-5, Sodium chloride 7758-98-7, Copper sulfate 7772-98-7, Sodium thiosulfate 7786-30-3, Magnesium chloride 8000-41-7, Terpineol
(in **Acarapis** woodi control on **bees**)

IT 151-50-8, Potassium cyanide
(in Acarpis woodi control on **bees**)

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=> d 1-17 bib hit

L27 ANSWER 1 OF 17 CROPU COPYRIGHT 2003 THOMSON DERWENT
AN 2003-80724 CROPU C G I
TI Method useful in the control of parasitic **mites** and hive invading pests of honey **bees**, comprises application of a specified ketone, **1-heptanol**, **ethyl butyrate**, **benzaldehyde**, **heptaldehyde** or **d-limonene**.
IN Erickson E H; Degrandi-Hoffman G; Becker C G; Whitson R S; Deeby T A
PA US-Sec.Army; Cerexagri
LO King of Prussia, Pa., USA
PI WO 2002067914 A1 20020906
AI US 2001-272097P 20010228
US 2002-272097 20020227
WO 2002-US5986 20020228
DT Patent
LA English
OS WPI: 2002-740718
FA AB; LA; CT
TI Method useful in the control of parasitic **mites** and hive invading pests of honey **bees**, comprises application of a specified ketone, **1-heptanol**, **ethyl butyrate**, **benzaldehyde**, **heptaldehyde** or **d-limonene**.
AB A method of controlling parasitic **mites** of honey **bees** (**Apis** mellifera) is claimed, comprising application of a specified ketone (I: especially **2-heptanone** (2H)), **1-heptanol**, **ethyl butyrate**, **benzaldehyde**, **heptaldehyde** or **d-limonene**. A typical formulation was a slow-release oil-gelled composition containing 10% 2H and 90% gelled mineral oil (Versagel C HP). In an example, **mites** (**Varroa** jacobsoni) were placed in petri dishes containing 40 ul 2H in the lid; fluvalinate (Apistan) was used as comparison. Within 2 hr, the **mites** were all dead, while no mortality was seen in controls. The composition had no ill effect on **bees** (composition of queen's court, oviposition). It is also claimed to be useful for controlling hive invading pests, especially greater wax moth (Galleria mellonella), lesser wax moth (Achroia grisella), small hive beetle (Aethina tunida), ants or Tropilaelaps.
ABEX In (I): y = 0 and x = 0-5; or y = 1 and x = 3; or y = 2 and x = 2. Also claimed are: an acaricidal composition for controlling parasitic **mites** of honey **bees** comprising a dispenser which provides the active compound; an attractant composition for attracting parasitic **mites** of honey **bees** comprising a dispenser providing 2H; a trapping system for controlling parasitic **mites** of honey **bees** comprising a trap and a dispenser containing 2H; and a composition for controlling hive invading pests of honey **bees** comprising a dispenser containing 2H. The agent either kills **mites**, incapacitates them (such as disrupting neural or other physiological functions to prevent essential **mite** functions or reproduction), or renders them sufficiently impaired to be trapped, drowned, isolated or otherwise removed from an area. 2H also acts as an attractant for **Varroa mites**.
CT HEPTANONE-2 *TR; **VARROA *TR**; JACOBSONI *TR; **BEE *TR** ; VARROIDAE *TR; ACARINA *TR; FLUVALINATE *RC; TAU-FLUVALINATE *RC; APISTAN *RC; HEPTANON2 *RN; ACARICIDE *FT; ACARICIDES *FT; OIL *FT; GEL *FT; COMB.ADDITIVE *FT; VERSAGEL-C-HP *FT; BIOASSAY *FT; DOSAGE *FT; IN-VITRO *FT; FORMULATION *FT; ALARM-PHEROMONES *FT; INSECT-REPELLENTS *FT; PLANT-GROWTH-INHIBITORS *FT; TR *FT

L27 ANSWER 2 OF 17 CROPU COPYRIGHT 2003 THOMSON DERWENT
AN 2001-85479 CROPU I G

TI Protecting beneficial insects, especially **bees**, from damage caused by parasitic **mites** comprises applying tebufenpyrad to the insects or their brood chamber or habitat.
IN Black B C; Baumbach W R; Beluch M P
PA Am.Cyanamid
LO Yardley, Pa., Hopewell; Bell Mead, N.Y., USA
PI US 6204283 B1 20010320
AI US 1998-92773 19980714
US 1999-351222 19990712
DT Patent
LA English
OS WPI: 2001-298906
FA LA; CT
TI Protecting beneficial insects, especially **bees**, from damage caused by parasitic **mites** comprises applying tebufenpyrad to the insects or their brood chamber or habitat.
AB A method for control of parasitic **mites** on **honeybees** is described, which consists of the application of an effective amount of tebufenpyrad. **Honeybees** from a colony 70-90% infected by V. jacobsoni were treated topically with a droplet of **acetone** containing 0.6, 0.06 or 0.006 ug tebufenpyrad; after 5 d, mortality of treated **bees** was 24-28%, while **mite** mortality was 44-92%. **Bee** tracheae infested with **Acarapis** woodi were placed on glass slides which were dipped into **acetone** containing 500 ppm tebufenpyrad; time to 100% mortality was 8-10 min. In a field test, 2 hives infested with V. jacobsoni were treated with 2 strips (2.5 x 17 cm), each containing 18% tebufenpyrad in a 60:40 beeswax/lard (Crisco) mix, inserted into the brood chamber, and **mite** infestation was monitored using sticky boards. Number of **mites** caught per day was 66-101 before and 1080-1777 after treatment. (No EX).
CT TEBUFENPYRAD *TR; TEBUFENPYRAD *SE; APIDAE *SE; **APIS *SE**; MELLIFERA *SE; **BEE *SE**; **ACARAPIS *TR**; WOODI *TR; **VARROA *TR**; JACOBSONI *TR; HYMENOPTERA *SE; TARSONEMIDAE *TR; ACARINA *TR; MK-239 *RN; ACARICIDE *FT; TOPICAL *FT; DOSAGE *FT; SURVIVAL *FT; NON-TARGET *FT; LAB.TEST *FT; HIVE *FT; FIELD *FT; N.Y. *FT; APPL.TECHNIQUE *FT; USA *FT; AREA-AMERICA *FT; ACARICIDES *FT; INSECTICIDES *FT; TR *FT; SE *FT

L27 ANSWER 3 OF 17 CABA COPYRIGHT 2003 CABI
AN 2002:47656 CABA
DN 20013180284
TI Resistance of the honey **bee**, **Apis** mellifera to the acarian parasite **Varroa** destructor: behavioural and electroantennographic data
AU Martin, C.; Provost, E.; Roux, M.; Bruchou, C.; Crauser, D.; Clement, J. L.; Conte, Y. le; le Conte, Y.
CS Institut National de la Recherche Agronomique, Laboratoire de Biologie et Protection de abeille, Unite de Zoologie-Apidologie, Avignon, France.
SO Physiological Entomology, (2001) Vol. 26, No. 4, pp. 362-370. 24 ref. ISSN: 0307-6962
DT Journal
LA English
TI Resistance of the honey **bee**, **Apis** mellifera to the acarian parasite **Varroa** destructor: behavioural and electroantennographic data.
AB One way in which A. mellifera honey **bees** resist V. destructor (collected from Avignon, France) is by detection and elimination of nestmates. This study uses behavioural tests and electroantennography to assess the role of chemostimuli in recognition by honey **bees** of this acarian ectoparasite. Behavioural tests using living or dead parasites involved observation of honey **bee** grooming activity (antennation) under controlled conditions in Petri dishes, and removal behaviour (uncapping and elimination of parasitized and unparasitized

control brood cells) under natural conditions. Some **bees** from colonies with both small and large parasite populations showed aggressive behaviour (biting). No difference was observed according to whether the **mite** was dead or alive. Under natural conditions, **bees** uncapped more parasitized cells than control cells. Electroantennographic tests were performed to measure sensitivity to various **Varroa** extracts at three concentrations (10, 20 and 30 **Varroa** equivalents). Only 30 **Varroa** equivalent methanol extracts made from **Varroa** collected from brood cells elicited significantly greater antennal response than controls (pure solvent). All three methanol extracts elicited significantly greater antennal response than controls. No response was observed using **Varroa** extracts made with **acetone** or hexane. These findings suggest that polar products may act as chemostimuli for recognition of V. destructor by honey **bees**. Further study will be necessary to determine which polar products are involved in this recognition and assess grooming and removal behaviour using these products.

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; Western Europe; Europe; Mediterranean Region; Developed Countries; European Union Countries; OECD Countries; Varroidae; Mesostigmata; **mites**; Acari; Arachnida

ST **Varroa** destructor

ORGN **Apis** mellifera; **Varroa**

L27 ANSWER 4 OF 17 CABA COPYRIGHT 2003 CABI

AN 2001:72027 CABA

DN 20013063807

TI Semiochemicals from larval food affect the locomotory behaviour of **Varroa** destructor

AU Nazzi, F.; Milani, N.; Della Vedova, G.; Nimis, M.

CS Dipartimento di Biologia applicata alla Difesa delle Piante, Universita di Udine, via delle Scienze 208, 33100 Udine, Italy.

SO Apidologie, (2001) Vol. 32, No. 2, pp. 149-155. 28 ref.
ISSN: 0044-8435

DT Journal

LA English

SL German; French

TI Semiochemicals from larval food affect the locomotory behaviour of **Varroa** destructor.

AB The stimuli inducing cell invasion by V. destructor were studied using a bioassay in which a **mite** was observed in a glass arena with four wells, each containing a live **bee** (**Apis** mellifera) larva, treated or non-treated with the stimulus to be tested. Larval food collected from drone cells before capping elicited a strong response from V. destructor. Both ether and **acetone** extracts of larval food induced the same response as larval food itself suggesting the existence of semiochemicals attracting or arresting the **mite**.

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; Varroidae; Mesostigmata; **mites**; Acari; Arachnida

CT **acetone**; behaviour; cell invasion; ectoparasites; ether extracts; insect pests; larvae; locomotion; semiochemicals

ST **Varroa** destructor

RN **67-64-1**

ORGN **Apis** mellifera; insects; **Varroa**

L27 ANSWER 5 OF 17 CROPU COPYRIGHT 2003 THOMSON DERWENT

AN 2000-90378 CROPU C G I

TI 4-Methoxy-2,3,5,6-tetrafluorobenzyl 3-(2,2-difluorovinyl) 2,2-dimethyl cyclopropanecarboxylate, useful as a pesticide.

IN Iwasaki T; Matsuo N

PA Sumitomo

LO Osaka, Jap.

PI WO 2000046178 A1 20000810

AI JP 1999-28891 19990205

WO 2000-JP28 20000106
DT Patent
LA English
OS WPI: 2000-524406
FA AB; LA; CT; MPC
AB A new difluorovinyl pyrethrin analog (I) is claimed as a pesticide.The compound was prepared as (1R), (1RS) and (1S) isomers, characterized by PMR data, and formulated e.g. as an emulsifiable concentrate containing 20% (wt) (I), 65% xylene and 15% Sorpol 3005X. In an example, (I) (0.002 vol%) in **acetone** (0.64 ml) was placed in an aluminum dish and was air dried. Ten female mosquitoes (Culex pipiens pallens) were placed in a cup covered with 16-mesh nylon, which was placed mesh side down onto the treated aluminum surface at 25 deg for 2 hr.The cup was then removed and the insects were fed and watered for 24 hr. The mortality after 24 hr was 100%. A comparable test with a prior art ester gave a 24 hr mortality rate of 35%. The knockdown rate (60 min) was 100%. The agent also showed activity against Tineola bisselliella in a polyethylene cup.
ABEX The compound is claimed as a pesticide, insecticide, acaricide and insect repellent. It is claimed to kill, repel and control the spread of Lepidoptera (moths), Diptera (flies), Dictyoptera (cockroaches), Hymenoptera (ants, wasps and **bees**), Siphonaptera e.g. Pulex irritans, Anoplura (lice), Isoptera (termites), Acarina (**mites** and ticks), Hemiptera (aphids), Coleoptera (beetles and weevils), Thysanoptera (thrips) and Orthoptera (locusts). It is a more effective broad spectrum pesticide than other ester pesticides. (35

L27 ANSWER 6 OF 17 CROPU COPYRIGHT 2003 THOMSON DERWENT
AN 2000-84096 CROPU I G
TI Method to control parasitic **mites** on beneficial insects e.g. Apidae.
IN Black B C; Baubach W R; Beluch M P
PA Am.Cyanamid
LO Madison, N.J., USA
PI EP 972448 A2 20000119
AI US 1998-115787 19980714
EP 1999-305410 19990707
DT Patent
LA English
OS WPI: 2000-099724
FA AB; LA; CT
TI Method to control parasitic **mites** on beneficial insects e.g. Apidae.
AB A method for the protection of beneficial insects, such as **honeybees**, from infestation and damage caused by parasitic **mites**, by application of tebufenpyrad (TEB) to the insects or **mites**, their brood chamber or habitat, is claimed. In acaricidal bioassays, **honeybees** infested with 70-90% **Varroa** jacobsoni received topical application of TEB (0.006, 0.06 and 0.6 ug/**bee**). Treated **bees** were placed in an incubator at 31 deg in the dark and fed a 50% sugar solution for 5 days; at 0.6 ug/**bee**, mortality rates for **bees** and **mites** were 28% and 92%, resp. **Honeybees** infested with **Acarapis** woodi were treated with 500 ppm TEB in **acetone**; 100% **mite** mortality occurred after 8-8.5 min. Field tests with two V. jacobsoni infested hives, sticky boards treated with 18% TEB in beeswax/lard base were placed in the hives; one day after treatment, **mite** counts of 1777 and 1080 **mites**/day were recorded.
ABEX The method is claimed especially for the control of parasitic **mites**, such as, V. jacobsoni, A. woodi and Tropilaelaps clareae. The claimed advantage is that the method can be used with little or no concomitant harm to the beneficial host. (4
CT TEBUFENPYRAD *TR; **BEE *TR**; **APIS *TR**; APIDAE *TR; **VARROA *TR**; JACOBSONI *TR; **ACARAPIS *TR**; WOODI *TR; HYMENOPTERA *TR; TARSONEMIDAE *TR; ACARINA *TR; MK-239 *RN; ACARICIDE

*FT; TOPICAL *FT; DOSAGE *FT; BIOASSAY *FT; FORMULATION *FT; WAX *FT; LARD *FT; STICKY *FT; BOARD *FT; HIVE *FT; APPL.TECHNIQUE *FT; FOOD *FT; ACARICIDES *FT; INSECTICIDES *FT; TR *FT

L27 ANSWER 7 OF 17 CABA COPYRIGHT 2003 CABI
AN 2001:92646 CABA
DN 20013082193
TI Evaluation of grapefruit essential oils for controlling **Varroa** jacobsoni and **Acarapis** woodi
AU Elzen, P. J.; Baxter, J. R.; Elzen, G. W.; Rivera, R.; Wilson, W. T.
CS Kika de la Garza Subtropical Agricultural Research Center, USDA-ARS, 2413 E. Hwy. 83, Weslaco, TX 78596, USA.
SO American Bee Journal, (2000) Vol. 140, No. 8, pp. 666-668. 10 ref. ISSN: 0002-7626
DT Journal
LA English
TI Evaluation of grapefruit essential oils for controlling **Varroa** jacobsoni and **Acarapis** woodi.
AB Four essential oils found in Citrus leaves - citral, **limonene**, citronellal, and linalool - were tested in the laboratory for effectiveness in knocking down V. jacobsoni **mites** from infested honey **bees**. Citral was the most effective, with 72.8% knockdown of **mites** from infested **bees** exposed to this compound. Only 7.9% initial knockdown of **varroa mites** was observed in the field test of citral, not significantly different from initial control **mite** drop. Total population change after 6 weeks of exposure between citral and control treatments was also not significantly different, with great increases in **mite** populations seen in the citral and control hives. Citral was more effective, however, in controlling the tracheal **mite**, A. woodi, resulting in a 66.8% reduction in populations after initial treatment. Discussion is presented on the use of natural essential oils in the control of honey **bee** acarine pests.
BT **Acarapis**; Acarapidae; Prostigmata; **mites**; Acari; Arachnida; arthropods; invertebrates; animals; Rutaceae; Sapindales; dicotyledons; angiosperms; Spermatophyta; plants; **Apis**; Apidae; Hymenoptera; insects; **Varroa**; Varroidae; Mesostigmata; Citrus
CT citral; control; essential oils; grapefruits; honey **bees**; leaves; **limonene**; linalool; **mite** control
ORGN **Acarapis** woodi; Citrus; Citrus paradisi; **mites**; **Varroa** jacobsoni

L27 ANSWER 8 OF 17 CROPU COPYRIGHT 2003 THOMSON DERWENT
AN 2000-83996 CROPU I G
TI Laboratory evaluation of miticides to control **Varroa** jacobsoni (Acari: Varroidae), a honey **bee** (Hymenoptera: Apidae) parasite.
AU Lindberg C M; Melathopoulos A P; Winston M L
CS Univ.Simon-Fraser
LO Burnaby, B.C., Can.
SO J.Econ.Entomol. (93, No. 2, 189-98, 2000) 3 Fig. 4 Tab. 47 Ref. CODEN: JEENAI
AV Department of Biological Sciences, Simon Fraser University, Burnaby, B.C., Canada V5A 1S6.
DT Journal
LA English
FA AB; LA; CT
TI Laboratory evaluation of miticides to control **Varroa** jacobsoni (Acari: Varroidae), a honey **bee** (Hymenoptera: Apidae) parasite.
AB Essential oil components was screened for selectivity and control of **Varroa** jacobsoni on **honeybees** (**Apis** mellifera), using a dish bioassay method, and **mite** and **bee** LD50s were determined after 24, 34 and 67 hrs. Compounds were: alpha-terpineol, benzyl acetate, benzyl alcohol, camphor, carvacrol, cineole, cinnamic alcohol, cinnamic aldehyde, cinnamon oil,

citronellal, clove oil, eugenol, methanol (solvent), n-hexane, **limonene**, Magic3 (a proprietary mix of 5 essential oil components), menthol, methyl salicylate, phenyl ethyl alcohol, phenyl ethyl propionate, pulegone, terpinen-4-ol, thymol and trans-anethole, with tau-fluvalinate and formic acid as positive controls. Highest **mite** toxicity and lowest **bee** mortality were with clove oil, benzyl acetate, thymol, carvacrol, methyl salicylate and Magic 3, and thymol, clove oil and Magic3 were most active by vapor exposure.

ABEX **Bees** and **mites** were confined in 60 x 20 mm petri dishes with a sugar-cube for food, and test components (dissolved in hexane) were applied to the dish base, allowing, vapor, contact and oral applications. In some tests, organisms were exposed to vapor only. Treatments considered to be selective killed over 70% of **mites** at doses which killed less than 30% of **bees**. The most selective treatment was tau-fluvalinate, while thymol, clove oil, Magic3 and methyl salicylate were at least as selective as formic acid. Estimated **mite** LD50s were significantly lower for complete exposure applications of thymol and Magic3 than for vapor applications, indicating that these compounds act mainly as fumigants, while estimated LD50s for clove oil were similar for both vapor and complete exposure.

CT ACARINA *TR; **VARROA *TR**; JACOBSONI *TR; HYMENOPTERA *SE; APIDAE *SE; **APIS *SE**; MELLIFERA *SE; **BEE *SE**; ACARICIDE *FT; FUMIGANT *FT; PLANT-OIL *FT; COMB.PREP. *FT; ESS. *FT; COMP. *FT; DOSAGE *FT; LD50 *FT; SELECTIVE *FT; BIOASSAY *FT; EXPOSURE *FT; NON-TARGET *FT; LAB.TEST *FT; ACTION-MECHANISM *FT; TERPINEOL-ALPHA *TR; TERPINEOL-ALPHA *SE; TERPINEOA *RN; TR *FT; SE *FT; BENZYL-ACETATE *TR; BENZYL-ACETATE *SE; BENZYLACE *RN; INSECT-ATTRACTANTS *FT; BENZYL-ALCOHOL *TR; BENZYL-ALCOHOL *SE; BENZYLALC *RN; SEX-PHEROMONES *FT; CAMPHOR *TR; CAMPHOR *SE; CAMPHOR *RN; CARVACROL *TR; CARVACROL *SE; CARVACROL *RN; DISINFECTANTS *FT; EUCALYPTOL *TR; EUCALYPTOL *SE; EUCALYPTO *RN; INSECT-REPELLENTS *FT; FUNGICIDES *FT; CINNAMYL-ALCOHOL *TR; CINNAMYL-ALCOHOL *SE; CINNAMALC *RN; PLANT-GROWTH-INHIBITORS *FT; CINNAMIC-ALDEHYDE *TR; CINNAMIC-ALDEHYDE *SE; CINNAMALD *RN; CINNAMON-OIL *TR; CINNAMON-OIL *SE; CINNAMOIL *RN; CITRONELLAL *TR; CITRONELLAL *SE; CITRONEAL *RN; CLOVE-OIL *TR; CLOVE-OIL *SE; CLOVE-OIL *RN; INSECTICIDES *FT; EUGENOL *TR; EUGENOL *SE; EUGENOL *RN; METHYL-ALCOHOL *TR; METHYL-ALCOHOL *SE; METHANOL *RN; HEXANE *TR; HEXANE *SE; HEXANE *RN; **LIMONENE *TR** ; **LIMONENE *SE**; **LIMONENE *RN**; MENTHOL *TR; MENTHOL *SE; MENTHOL *RN; METHYL-SALICYLATE *TR; METHYL-SALICYLATE *SE; MESALICYL *RN; PHENETHYL-ALCOHOL *TR; PHENETHYL-ALCOHOL *SE; PHENETHOL *RN; PHENETHYL-PROPIONATE *TR; PHENETHYL-PROPIONATE *SE; PHENETPRO *RN; PULEGONE *TR; PULEGONE *SE; PULEGONE *RN; TERPINEOL-4 *TR; TERPINEOL-4 *SE; TPINENOL4 *RN; AGGREGATION-PHEROMONES *FT; THYMOL *TR; THYMOL *SE; THYMOL *RN; ANETHOLE-TRANS *TR; ANETHOLE-TRANS *SE; ANETHOLET *RN; MAGIC-3 *TR; MAGIC-3 *SE; TAU-FLUVALINATE *TR; TAU-FLUVALINATE *SE; FLUVALIND *RN; ACARICIDES *FT; FORMATE *TR; FORMATE *SE; FORMATE *RN; ALARM-PHEROMONES *FT

L27 ANSWER 9 OF 17 CROPU COPYRIGHT 2003 THOMSON DERWENT
AN 1998-83064 CROPU I G
TI Controlling infestations in honey **bee** colonies e.g. **Varroa mites** using slow release gel containing essential oil or organic acid e.g. thymol.
IN Watkins M
PA Vita-Euro
LO Odiham, U.K.
PI WO 9747193 A1 19971218
AI GB 1996-12403 19960613
WO 1997-EP3078 19970612
DT Patent
LA English
OS WPI: 1998-051935 [05]
FA AB; LA; CT

TI Controlling infestations in honey **be** colonies e.g. **Varroa mites** using slow release gel containing essential oil or organic acid e.g. thymol.

AB A method for control of acarid, lepidopteran, fungal or bacterial infestations in **honeybee** colonies (especially **Varroa** jacobsoni) is described, using a slow release gel, containing an essential oil (preferably menthol, geraniol, thymol, myrcene, citral, **limonene**, carene, camphor, eugenol, cineole, lemon oil, eucalyptus oil or neem oil, especially thymol) or organic acid (e.g. formic, acetic or oxalic acid), to the hives. The slow release gel is also claimed. The gel is in a shallow tray dispenser with a hermetically sealing lid or in strips, pellets, tablets or dispenser trays, and is used for a 4-6 week treatment period. Preparation of formulations of thymol, camphor, calcium oxalate, cineole (eucalyptol), **limonene** , menthol, neem oil, acetic acid and formic acid. Tests with a 25% thymol formulation, at 1 or 2 trays/hive, for control of V. jacobsoni are also described.

ABEX The method is also useful for control of **Acarapis** woodii, Tropilaelaps clareae, Galleria mellonella, Achroia grisella, Braula caeca, Ascosphaera **apis**, Bacillus larvae and Melissococcus pluton, and is effective against both pyrethroid-resistant and susceptible V. jacobsoni. The concentration of oil or acid is chosen to reduce the level of **Varroa** infection to less than 20% over at least one **mite** reproductive cycle. The formulation comprises a regulated dose release of active substance into the hive over a set period of time, at 10-40 deg. The thymol preparation described consisted of 0.38 parts Carbopol EZ1 dissolved in 73.86 parts water, followed by 0.76 parts thymol, then 0.76 parts triethanolamine, to form a gel. Shallow plastic trays are filled with 50 g portions of the gel, then hermetically sealed. Similar formulations containing thymol (10, 15, 20, 25, 30, 35 or 40%), camphor (25%) and calcium oxalate (25%) are described, also suspensions containing cineole (25%), **limonene** (25%), menthol (25%), neem oil (25%), acetic acid (30%) and formic acid (25%). In tests with the 25% thymol gel, 1 or 2 trays, each containing 50 g gel, were opened and placed in a hive, on top of the brood frames, for 6 weeks. Average temperature was 33-34 deg inside the hive and 17-35 deg outside. After 6 weeks, V. jacobsoni infestation was reduced by 48.3% with 1 tray, 77.2% with 2 trays, and 12.9% in the untreated control. (16

CT ACARINA *TR; **VARROA *TR**; JACOBSONI *TR; **BEE *TR**; APIDAE *TR; HYMENOPTERA *TR; **APIS *TR**; MELLIFERA *TR; ACARINA *OC; **ACARAPIS *OC**; WOODII *OC; TROPILAELAPS *OC; CLAREAE *OC; GALLERIA *OC; MELLONELLA *OC; ACHROIA *OC; GRISELLA *OC; BRAULA *OC; CAECA *OC; ASCOSPHAERA *OC; **APIS *OC**; BACILLUS *OC; LARVAE *OC; MELISSOCOCCUS *OC; PLUTON *OC; PYRALIDAE *OC; LEPIDOPTERA *OC; ASCOSPHAERALES *OC; ASCOMYCOTINA *OC; EUBACTERIALES *OC; BACTERIUM *OC; ACARICIDE *FT; FUMIGANT *FT; CONTROLLED-RELEASE *FT; GEL *FT; DOSAGE *FT; DURATION *FT; PERSISTENCE *FT; COMB.ADDITIVE *FT; COMP. *FT; TEMPERATURE *FT; HIVE *FT; CARBOPOL-EZ1 *FT; TRIETHANOLAMINE *FT; ACTION-MECHANISM *FT; FORMULATION *FT; THYMOL *TR; THYMOL *OC; THYMOL *RN; FUNGICIDES *FT; TR *FT; OC *FT; EUCALYPTOL *OC; EUCALYPTO *RN; INSECT-REPELLENTS *FT; DISINFECTANTS *FT; CAMPHOR *OC; CAMPHOR *RN; OXALATE *OC; OXALATE *RN; **LIMONENE *OC**; **LIMONENE *RN**; MENTHOL *OC; MENTHOL *RN; NEEM-OIL *OC; NEEM-OIL *RN; ACETATE *OC; ACETATE *RN; FORMATE *OC; FORMATE *RN; ALARM-PHEROMONES *FT

L27 ANSWER 10 OF 17 CABA COPYRIGHT 2003 CABI DUPLICATE 1

AN 1998:17197 CABA

DN 981100478

TI Toxicity of seven monoterpenoids to tracheal **mites** (Acari: Tarsonemidae) and their honey **bee** (Hymenoptera: Apidae) hosts when applied as fumigants

AU Ellis, M. D.; Baxendale, F. P.

CS Department of Entomology, University of Nebraska, 202 Plant Industries Building, Lincoln, NE 68583-0816, USA.
SO Journal of Economic Entomology, (1997) Vol. 90, No. 5, pp. 1087-1091. 34 ref.
ISSN: 0022-0493
DT Journal
LA English
TI Toxicity of seven monoterpenoids to tracheal **mites** (Acari: Tarsonemidae) and their honey **bee** (Hymenoptera: Apidae) hosts when applied as fumigants.
AB Laboratory bioassays were conducted to characterize the acute toxicity of 7 monoterpenoids to **Acarapis** woodi and its host **Apis** mellifera. Citral, thymol, carvacrol, alpha -terpineol, pulegone, **d-limonene**, and menthol were applied as fumigants to **mite**-infested honey **bees**. Thymol and menthol were the most toxic compounds to honey **bees**, and alpha -terpineol was the least toxic. Menthol, citral, thymol, and carvacrol were more toxic to tracheal **mites** than to honey **bees**. Pulegone, **d -limonene**, and alpha -terpineol were more toxic to honey **bees** than to tracheal **mites**. Menthol was 18.9 times more toxic to tracheal **mites** than to honey **bees** at the LC50 concentrations; however, as the concentration increased, **bee** mortality increased more rapidly than **mite** mortality, and menthol was only 5.7 times more toxic at the LC90 concentrations. Probit regressions for **bee** and **mite** mortality were parallel for citral and thymol. Citral and thymol were 2.9 (2.5-3.3) and 2.0 (1.0-3.6) times more toxic to tracheal **mites**, respectively, at all concentrations estimated.
BT **Acarapis**; Acarapidae; Prostigmata; **mites**; Acari; Arachnida; arthropods; invertebrates; animals; **Apis**; Apidae; Hymenoptera; insects
ST carvacrol; alpha-terpineol; pulegone; **d-limonene**
ORGN **Acarapis** woodi; **Apis** mellifera

L27 ANSWER 11 OF 17 CABA COPYRIGHT 2003 CABI
AN 96:455 CABA
DN 950201519
TI Methyl palmitate does not elicit invasion of **honeybee** brood cells by **Varroa mites**
AU Boot, W. J.
CS Department of Pure and Applied Ecology, Section Population Biology, University of Amsterdam, Kruislaan 320, 1098 SM Amsterdam, Netherlands.
SO Experimental & Applied Acarology, (1994) Vol. 18, No. 10, pp. 587-592. Bb.
ISSN: 0168-8162
DT Journal
LA English
TI Methyl palmitate does not elicit invasion of **honeybee** brood cells by **Varroa mites**.
AB A special 'half-comb' with a transparent base was used in these trials so that worker brood cells could be inspected every 2 h for invasion by **mites**. Test cells were treated with 2 micro l of 10, 1 or 0.1% methyl palmitate in **acetone**, or with pure **acetone**. Numbers of **mites** invading treated cells were similar to those in untreated cells in all trials except one; in the 0-6 h preceding capping, cells treated with 0.1% methyl palmitate had more **mites** than control cells. Higher doses of methyl palmitate killed some or all larvae. It is concluded that this compound does not (as has been suggested) serve as an attractant to **mites**. Further, an unpublished analysis of volatiles from brood cells that attracted **mites** established that methyl palmitate was present as a trace in only 2 of 17 samples.
BT beneficial arthropods; arthropods; invertebrates; animals; beneficial organisms; insects; parasites; **Apis**; Apidae; Hymenoptera; **Varroa**; Varroidae; Mesostigmata; **mites**; Acari; Arachnida
CT beneficial insects; ectoparasites; pests; honey **bees**; honey

bee brood; invasion; larvae; esters
ORGN **Apis** mellifera; **Varroa** jacobsoni

L27 ANSWER 12 OF 17 CROPU COPYRIGHT 2003 THOMSON DERWENT
AN 1993-85470 CROPU I G
TI Pear, Summer Control of Pear Psylla and Pear Rust **Mite**, 1992.
AU Johnson J W; Wise J C
LO Fennville, Mich., USA
SO Insectic.Acaric.Tests (18, 62-63, 1993) 4 Tab.
AV Department of Entomology, Michigan State University, East Lansing, MI 48824-1115, U.S.A.
DT Journal
LA English
FA AB; LA; CT
TI Pear, Summer Control of Pear Psylla and Pear Rust **Mite**, 1992.
AB Bartlett pear trees were sprayed with the following treatments (rate/A) for control of Cacopsylla (Psylla) pyricola (Cp) and Epitrimerus pyri (Ep): Kelthane 35W (dicofol, 1.5 lb) applied on 6 May (white bud) and 14 May (petal fall) followed by Mitac 1.5EC (amitraz; 1 gal) on 8 June (2nd cover) and 2 July (4th cover); Agri-**Mek** 0.15EC (avermectin-b1, 20 oz) + Sun Ultra Fine Spray Oil (mineral oil, 1 gal) and Agri-**Mek** 0.15EC (10 oz) + M-Pede (insecticidal soap, 2% v/v) on 27 May (1st cover); and Danitol 2.4EC (fenpropathrin, 0.4 lb) and Kelthane 35WP (2.1 lb) on 6 May (white bud), 27 May (1st cover) and 22 June (3rd cover). Kelthane followed by Mitac provided the highest % of fruit free from Ep russeting and the highest control of Cp. Danitol plots had the highest incidence of sooty mold injury.
ABEX All treatments were applied with an FMC 1029 airblast sprayer delivering 10092 L/A of finished spray. Streptomycin, ferbam, **Bee**-scent and dodine were applied to all treatments separately. Cp and Ep counts were conducted on 20 May, 2, 9, 16 and 23 June, 2, 9, 15, 24 and 30 July, 6, 13 and 21 Aug. At each evaluation, 200 leaves per treatment were picked and examined for Ep adults, and Cp nymphs and eggs. Fruits were harvest on 25 Aug, and examined for sooty mold and russeting.
CT PEAR *TR; PSYLLA *TR; PYRICOLA *TR; EPITRIMERUS *TR; PYRI *TR; POMACEOUS-FRUIT *TR; FRUIT-CROP *TR; CROP *TR; PSYLLIDAE *TR; HOMOPTERA *TR; ERIOPHYIDAE *TR; ACARINA *TR; STREPTOMYCIN *RC; DODINE *RC; FERBAM *RC; **BEE**-SCENT *RC; FIELD *FT; ORCHARD *FT; MICH. *FT; SPRAY *FT; APPL.TIME *FT; POPULATION-DENSITY *FT; DECREASE *FT; PERSISTENCE *FT; DOSAGE *FT; INSECTICIDE *FT; ACARICIDE *FT; NYMPH *FT; EGG *FT; ADULT *FT; NO. *FT; FRUIT *FT; YIELD *FT; QUALITY *FT; DAMAGE *FT; USA *FT; AREA-AMERICA *FT; APPL.TECHNIQUE *FT; ECOLOGY *FT; PLANT-PART *FT
[03] AVERMECTIN-B1 *TR; AGRI-**MEK** *TR; AVERMEB1 *RN; EMULSION *FT; COVER *FT; COMB. *FT; FORMULATION *FT; ANTIBIOTICS *FT; INSECTICIDES *FT; ACARICIDES *FT; NEMATICIDES *FT; INSECT-CHEMOSTERILANTS *FT; TR *FT

L27 ANSWER 13 OF 17 CABA COPYRIGHT 2003 CABI
AN 92:125895 CABA
DN 920232424
TI Evaluation of botanical compounds for control of the honey-**bee** tracheal **mite**, **Acarapis** woodi
AU Calderone, N. W.; Bruce, W. A.; Allen-Wardell, G.; Shimanuki, H.
CS Bee Research Laboratory, ARS, USDA, Building 476, BARC-EAST, Beltsville, MD 20705, USA.
SO American Bee Journal, (1991) Vol. 131, No. 9, pp. 589-591. Bj.
ISSN: 0002-7626
DT Journal
LA English
TI Evaluation of botanical compounds for control of the honey-**bee** tracheal **mite**, **Acarapis** woodi.
AB Several compounds were tested in the laboratory on groups of workers from **Acarapis**-infested honey **bee** (**Apis** mellifera)

colonies. Clove oil killed 78.2% of **mites** and citronellal 63.4%; both mortalities were significantly higher than that (11.6%) in untreated controls. **D-limonene** killed nearly 30% of **mites**. In a second series of tests, the mortalities of **mites** treated by the following compounds were significantly higher than in controls (11.1%): alpha -terpinene (39.3%), terpineol (28.5%) and menthol (34.7%). Two of the compounds, alpha -pinene and alpha -terpinene, caused higher mortalities than in controls, but differences were not significant. All the plant-derived compounds (but alpha -pinene not reported) caused lower **bee** mortality than was caused by menthol.

BT animals; **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; pesticides; **Acarapis**; Acarapidae; Prostigmata; Acari; Arachnida

CT Pests; honey **bees**; control methods; Acaricides; Plant oils

ORGN **Acarapis** woodi

L27 ANSWER 14 OF 17 CROPU COPYRIGHT 2003 THOMSON DERWENT

AN 1990-85449 CROPU I P G S

TI Essential Oils of Labiatae for Controlling Honey **Bee** Varroosis.

AU Colin M E

LO Montfavet, Fr.

SO J.Appl.Entomol. (110, No. 1, 19-25, 1990) 4 Tab. 18 Ref.

AV INRA Institut National de la Recherche Agronomique, Station de Recherches de Zoologie et d'Apidologie, Domaine St.-Paul-Cantarel, Route de Marseille, B.P. 91, F-84140 Montfavet, France.

DT Journal

LA English

FA AB; LA; CT; MPC

TI Essential Oils of Labiatae for Controlling Honey **Bee** Varroosis.

AB Essential oils from the plant family Labiatae were evaluated for control of varroosis (**Varroa** jacobsoni) in honey **bee** colonies. The essential oils evaluated were 1% thyme and 0.5% sage; the oils were applied as aerosols from an aqeuous emulsion. The oils were compared with a treatment of amitraz (Taktic EC) 12.5%, which was also applied as an aerosol. The oils were applied 4 times at intervals of 3-4 days.The number of surviving **mites** was determined by a control treatment with fluvalinate. Total control efficiency for amitraz was 99%, compared with 95.4% for the essential oils. The results indicated that the essential oil treatments would only be efficient in practice on weakly infested colonies, with only a few mutilated individuals and a small brood area. Low residues in honey were determined just after treatment.

ABEX Samples of honey were taken just before and 2 hr after essential oil application, and were analyzed by sensory testing (expert panel) and by gas chromatography. The main components of white thyme essential oil were **limonene**, gamma terpene, para-cymene, camphor, caryophyllene, linalol, thymol and carvacrol; main components of sage oil were alpha pinene, camphene, beta pinene, myrcene, **limonene**, 1,8-cineol, alpha thujone, camphor, caryophyllene, bornyl acetate, humulene and borneol.

CT APIDAE *TR; HYMENOPTERA *TR; **APIS** *TR; **BEE** *TR; **VARROA** *TR; JACOBSONI *TR; ACARINA *TR; FLUVALINATE *RC; ACARICIDE *FT; EMULSION *FT; AEROSOL *FT; FIELD *FT; FR. *FT; REPEAT *FT; FORMULATION *FT; AREA-EUROPE *FT; APPL.SCHEDULE *FT

L27 ANSWER 15 OF 17 CABA COPYRIGHT 2003 CABI DUPLICATE 2

AN 89:2721 CABA

DN 890226418

TI Studies on the efficacy of coumaphos and amitraz used as systemic preparations for the control of **Varroa** jacobsoni
Badania nad przydatnosciq kumafosu i amitrazu zastosowanych jako preparaty ukladowe do zwalczania inwazji V. jacobsoni

AU Kostecki, R.; Jedruszuk, A.

CS Zaklad Badania Chorob Owadow Uzytkowych, Inst. Weterynarii, ul. Poznanska

35, 62-020 Swarzedz, Poland.
SO Medycyna Weterynaryjna, (1987) Vol. 43, No. 4, pp. 230-233. Bc.
ISSN: 0025-8628
DT Journal
LA Polish
SL English; Russian
TI [Studies on the efficacy of coumaphos and amitraz used as systemic preparations for the control of **Varroa** jacobsoni].
Badania nad przydatnosciq kumafosu i amitrazu zastosowanych jako preparaty ukladowe do zwalczania inwazji V. jacobsoni.
AB Substances similar to the systemic acaricide coumaphos were produced in Poland. Their solutions in **acetone**, with an emulsifier, contained 40 mg/ml of the active substance. The following substances were used: VJ-11, VJ-12, VJ-36, VJ-45, VJ-52, VJ-53, VJ-55, VJ-58, VJ-60, VJ-67 and amitraz. Coumaphos (VJ-44) was also used. Investigations on therapeutic efficacy and any side-effects were performed in autumn 1986. An aliquot of 1.0 ml of the tested chemical was added to 50 ml of water and the aqueous emulsion was uniformly applied to **bees** in the **bee**-spaces. Two applications at an interval of 7 days were used. The results confirmed the efficacy of coumaphos and amitraz for the control of **Varroa**. Similar results were also noted with VJ-45, VJ-52, VJ-53 and VJ-58. These substances appeared to be practically harmless to **bees**. Author.
BT animals; **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; organothiophosphate insecticides; organophosphorus insecticides; insecticides; pesticides; **Varroa**; Varroidae; Mesostigmata; Acari; Arachnida
CT Pests; HONEY **BEES**; control methods; Coumaphos
ORGN **Varroa** jacobsoni

L27 ANSWER 16 OF 17 CABA COPYRIGHT 2003 CABI
AN 80:7557 CABA
DN 790209312
TI Chemical for controlling **honeybee** parasites
CS USSR, All-Union Scientific Research Institute of Veterinary Sanitation
PI 19780000
SO Japanese Kokai (unexamined patent application), No. 53-139722, pp. 7. B.
DT Patent
LA Japanese
TI Chemical for controlling **honeybee** parasites.
AB **Honeybee** diseases caused by **Acarapis** woodi and **Varroa** jacobsoni are controlled with N-methylcarbamates. Thus, 0.02% 1-naphthyl N-methylcarbamate in **acetone** controlled infestations of these **mites** in **honeybees**. [Chem.Abstr. 90 : 116454p (1979).] F. B. Wells
BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; Acari; Arachnida
CT honey **bees**; control; natural enemies
ST **mite**; carbamates and derivatives
ORGN **mites**

L27 ANSWER 17 OF 17 CABA COPYRIGHT 2003 CABI
AN 80:7345 CABA
DN 790209033
TI Acaricide preparations for the diagnosis and control of ectoparasites of **honeybees**
Akarizides Praparat zur Diagnostik und Bekampfung von Ektoparasiten der Bienen
AU Poljakov, A. A.; and 9 others; Polyakov, A. A.
CS Vsesoyuznoi Nauchno-issledovatel'skii Inst. Veterinarnoi Sanitarii, Moscow, USSR.
PI 19780000
SO German Federal Republic Offenlegungsschrift, No. 2719722, pp. 16. B.
DT Patent

LA German
TI [Acaricide preparations for the diagnosis and control of ectoparasites of **honeybees**].
Akarizides Praparat zur Diagnostik und Bekampfung von Ektoparasiten der Bienen.
AB N-methylcarbamates control infestation of **honeybees** by **Acarapis** woodi and by **Varroa** jacobsoni. Thus, application to hives of a composition containing 0.025% by weight methyl-N-methylcarbamate, 19.975% **acetone**, and 80% difluorodichloromethane, completely controlled these **mites**. The compounds are also useful for diagnosis, since their application to infested **bees** led to the appearance of dead V. jacobsoni on the bottom of the hive. [Chem. Abstr. 90 : 49668w (1979).] F. B. Wells
BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; pesticides; Acari; Arachnida; **Varroa**; Varroidae; Mesostigmata; **Acarapis**; Acarapidae; Prostigmata
CT honey **bees**; control; acaricides; natural enemies
ST **mite**; carbamates and derivatives
ORGN **mites**; **Varroa** jacobsoni; **Acarapis** woodi